

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
18 August 2005 (18.08.2005)

PCT

(10) International Publication Number  
**WO 2005/075520 A1**

- (51) International Patent Classification<sup>7</sup>: C08F 4/02, 210/16, 4/22, 4/642
- (21) International Application Number: PCT/EP2005/001031
- (22) International Filing Date: 2 February 2005 (02.02.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
10 2004 006 104.1 6 February 2004 (06.02.2004) DE  
60/556,273 24 March 2004 (24.03.2004) US
- (71) Applicant (*for all designated States except US*): BASELL  
POLYOLEFINE GMBH [DE/DE]; Brühler Strasse 60,  
50389 Wesseling (DE).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): MIHAN,  
Shahram [IR/DE]; Am Eichwald 18, 65812 Bad So-  
den (DE). WULFF-DÖRING, Joachim [DE/DE];  
Hanns-Fey-Strasse. 4, 67227 Frankenthal (DE). KÖPPL,  
Alexander [DE/DE]; Albert-Schweitzer-Str. 19, 67117  
Limburgerhof (DE). ROHDE, Wolfgang [DE/DE];  
Fritz-Ober-Strasse 21, 67346 Speyer (DE).
- (81) Designated States (*unless otherwise indicated, for every  
kind of national protection available*): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.
- (84) Designated States (*unless otherwise indicated, for every  
kind of regional protection available*): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).
- Declaration under Rule 4.17:  
— *of inventorship (Rule 4.17(iv)) for US only*
- Published:  
— *with international search report*
- For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

(54) Title: PREPARATION OF SUPPORTED CATALYSTS FOR POLYMERIZATION

(57) Abstract: The invention relates to a process for preparing a supported catalyst, in particular for the polymerization and/or copolymerization of olefins, which comprises: 5 a) preparing a hydrogel; b) milling the hydrogel to give a finely particulate hydrogel; c) producing a slurry based on the finely particulate hydrogel; d) drying the slurry comprising the finely particulate hydrogel to give the support for catalysts; e) producing the supported catalyst by applying at least one transition metal and/or at least one transition metal compound to the support for catalysts and, if appropriate, activating the applied metal and/or compound, wherein a finely particulate hydrogel in which - at least 5% by volume of the particles, based on the total volume of the particles, have a particle size in the range from > 0 pm to <\_3 pm; and/or - at least 40% by volume of the particles, based on the total volume of the particles, have a particle size in the range from > 0 pm to <\_12 pm, and/or - at least 75% by volume of the particles, based on the total volume of the particles, have a particle size in the range from > 0 pm to <\_35 pm, is produced in step b) and a support which can be prepared as set forth in steps a) to d) is used to produce catalysts in step e).